

8.1 - Solving Trigonometric Equations [graphically]

AKA... E-Z

Solve: $\tan x = 2$ algebraically
graphically

Algebraically

$$x = \tan^{-1}(2) \begin{cases} 1.107 \text{ radians} \\ \text{63 something}^\circ \end{cases}$$

Graphically

$$Y_1 = \tan x$$

$$Y_2 = 2$$

2ND CALC INTERSECT
trace

$$Y_1 = \tan x - 2$$

2ND CALC
ZERO

ANSWER:

SANETHINK
± nπ

SOLVE

$$\sin x = \frac{4}{5} \quad \begin{array}{l} \text{alg} \\ \text{grø} \end{array}$$

$$x \approx 53.13^\circ$$

$$\approx .927 \text{ rad}$$



grø

$$53.13^\circ + n(2\pi)$$

$$\begin{array}{l} 180 - 53.13^\circ \\ 126.87^\circ + n(2\pi) \end{array}$$

Solve $\sin x + \cos x = \frac{5}{7}$

ALG

Geo

MUCH HARDER.
for our purposes
impossible

8.1/1-10
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